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PROCESS FOR PREPARING PEROXIDES USING MIXED ANHYDRIDES

(Inventors: Johannes W. A. Overkamp; Marinus C. Tammer;
Bernard De Vries; and Anna G. Van de Bovenkamp-Bouwman)

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This application is a divisional of U.S. Serial No. 09/686,785, filed October 11,
now U.S. Patent No. 6,610,880
2000, which application claims priority from U.S. Serial No. 60/171,409, filed
December 21, 1999 and European Patent Application No. 992033364.7, filed
10 October 13, 1999.

The invention relates to a process for preparing a peracid, perester or
diacylperoxide, a hydroxyperacid, hydroxyperester, and hydroxydiacylperoxide
obtainable by said process, and the use of said hydroxyperoxides.

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Peracids, peresters, and diacylperoxides are commercially important
compounds and are used in bleaching, oxidation and/or epoxidation reactions
(e.g. m-chloroperbenzoic acid) and/or as chain transfer agents and/or initiators
for the radical (co)polymerization of (ethylenically unsaturated) monomers into
20 polymers, e.g., (meth)acrylic resins, polyethylenes, polyvinylchlorides,
polystyrenes, and copolymers thereof. These peroxides are also used for the
modification of said polymers, e.g., grafting of monomers onto polymers,
degradation or molecular weight reduction of polymers, and cross-linking. They
may also be used for curing unsaturated polyesters. These peroxides can be
25 used as such or in the form of a solution, emulsion or suspension containing
the peroxide. Various methods of synthesis of the aforementioned peroxides
are known in the art. Most of the reported methods and in particular the
commercial routes involve the use of an acid chloride or an anhydride such as
acetic anhydride or phthalic anhydride and sometimes a solvent.

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These prior art methods suffer from the disadvantage that acid chlorides are
expensive starting materials. Furthermore, some of the acid chlorides which
would have to be used for the synthesis of the peroxides in accordance with the